REMARKS

This is a full and timely response to the non-final Office Action mailed by the U.S. Patent and Trademark Office on March 20, 2007. Upon entry of the foregoing amendments, claims 1 – 5 and 7 – 16 and 18 remain pending in the present application. Claims 1, 5, 9, 13 and 15 have been amended. Claims 6 and 17 have been canceled. The subject matter of amended claims 1, 5, 9, 13 and 15 is supported in at least figures 1 – 4 and the related detailed description of Applicant's original specification. Accordingly, no new matter is added to the present application. In light of the foregoing amendments and following remarks, Applicant requests reconsideration of the application and pending claims.

I. Response to 35 U.S.C. § 102 Rejections – Claim 5

A. Statement of the Rejection

Claim 5 stands rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent Application Publication No. 20040235445 to Gomez (hereafter *Gomez*).

B. Discussion of the Rejection

Applicant respectfully submits that independent claim 5, as amended, is patentable for at least the reason that the cited reference fails to disclose, teach, or suggest each feature in the claimed low-noise filter.

It is well established that "anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 Fed 2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). The test is the same for a process. Anticipation requires identity of the claimed process and a process of the prior art. The claimed process, including each step thereof, must have been described or embodied, either expressly or inherently, in a single reference. *See, e.g., Glaverbel S.A. v. Northlake Mkt'g & Supp., Inc.*, 45 F.3d 1550, 33 USPQ2d 1496 (Fed. Cir. 1995).

Accordingly, the single prior art reference must properly disclose, teach or suggest each element of the claimed invention.

Gomez fails to disclose, teach, or suggest Applicant's claimed low-noise filter for a wireless receiver, which includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback loop located between an output of the amplifier and an output of the low-noise filter, wherein an active circuit simulates an inductance at the output of the amplifier."

In contrast with Applicant's claimed low-noise filter, *Gomez* is entirely silent regarding an active circuit that simulates an inductance at the output of the amplifier. FIGs. 4, 5 and 7 of *Gomez* illustrate various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on-off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank circuit (band-pass filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed. Absent from *Gomez* is any indication that an active circuit simulates an inductance at the output of the amplifier. Consequently, *Gomez* does not anticipate Applicant's claimed low-noise filter.

Consequently, Applicant respectfully submits independent claim 5 is allowable over *Gomez* and respectfully requests that the rejection of claim 5 be withdrawn.

II. Claim Rejection Under 35 USC § 103– Claim 1

A. Statement of the Rejection

Claim 1 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Gomez*.

B. Discussion of the Rejection

Applicant respectfully submits that independent claim 1, as amended, is patentable for at least the reason that the cited reference fails to disclose, teach, or suggest each feature in the amended claim.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Accordingly, the cited reference must properly disclose, teach or suggest each element of the claimed invention.

Gomez fails to disclose, teach, or suggest Applicant's claimed method for filtering a received signal in a wireless receiver, which includes at least the step of "inverting the impedance of the received signal in the filter chain using an active circuit to simulate the inductance at the output of the amplifier, the filter chain arranged such that a feedback loop is located between an output of the variable gain amplifier and the output of the filter chain."

In contrast with Applicant's claimed method for filtering a received signal in a wireless receiver, *Gomez* is entirely silent regarding inverting the impedance of the received signal in the filter chain using an active circuit to simulate the inductance at the output of the amplifier.

As shown above, FIGs. 4, 5 and 7 of *Gomez* illustrate various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on or off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Controllably adding or removing capacitance from a parallel LC circuit does not disclose, teach or suggest using an active circuit to simulate the inductance at the output of an amplifier.

Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank

circuit (band-pass filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed. Absent from *Gomez* is any indication that an active circuit simulates an inductance at the output of the amplifier. Consequently, *Gomez* does not anticipate Applicant's claimed method for filtering a received signal in a wireless receiver.

Consequently, Applicant respectfully submits independent claim 1 is allowable over *Gomez* and respectfully requests that the rejection of claim 1 be withdrawn.

III. Claim Rejection Under 35 USC § 103– Claims 2 - 4

A. Statement of the Rejection

Claims 2 - 4 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Gomez* in view of U.S. Patent No. 4,290,036 to Moulding *et al*. (hereafter *Moulding*).

B. Discussion of the Rejection

Applicant respectfully submits that dependent claims 2 – 4 are patentable over the proposed combination of *Gomez* in view of *Moulding* for at least the reason that the proposed combination fails to disclose, teach, or suggest each feature in amended independent claim 1, from which claims 2 -4 depend.

In addition, *Moulding* teaches away from Applicant's claimed method because *Moulding* discloses a circuit architecture that is in direct conflict with the arrangement in Applicant's claim 1.

First, the proposed combination fails to disclose, teach, or suggest Applicant's claimed method for filtering a received signal in a wireless receiver, which includes at least the step of "inverting the impedance of the received signal in the filter chain using an active circuit to simulate the inductance at the output of the amplifier, the filter chain arranged such that a feedback loop is located between an output of the variable gain amplifier and the output of the filter chain."

In contrast with Applicant's claimed method for filtering a received signal in a wireless receiver, the combination of *Gomez* in view of *Moulding* does not disclose, teach or suggest

inverting the impedance of the received signal in the filter chain using an active circuit to simulate the inductance at the output of the amplifier where the filter chain is arranged such that a feedback loop is located between an output of the variable gain amplifier and an output of the filter chain.

As shown above, FIGs. 4, 5 and 7 of *Gomez* illustrate various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on or off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Controllably adding or removing capacitance from a parallel LC circuit does not disclose, teach or suggest using an active circuit to simulate the inductance at the output of an amplifier.

Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank circuit (band-pass filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed.

Moulding (FIGs. 4-6) apparently discloses filter circuits that apply a simulated inductance in a negative feedback path to an input of amplifier 13. *Moulding* describes the circuit as follows,

> FIG. 4 shows a second embodiment of the invention in which the simple voltage amplifier 9 of FIG. 3 has been replaced by a voltage amplifier arrangement comprising the combination of a voltage-controlled current source 10 and a load resistor 12. The input terminal 1 is now connected to the non-inverting input of a differential voltage amplifier 13, the non-inverting output of which is coupled to the port 8 of gyrator 5 and to the output terminal 3. The common point of the non-inverting output of source 10 and the load resistor 12 is connected to the inverting input of amplifier 13. The load resistor 12, i.e. the output of voltage amplifier arrangement 10, 12, is thus connected in series with the signal path from input terminals 1, 2 to the input of amplifier 13, i.e. in series with the input signal path through (inductive) port 8. It will be seen moreover, that the output of arrangement 10, 12 is connected in the series arrangement, effectively constituted by said output, the port 8 and the capacitor 11, in such a sense such that, within this series arrangement, the signal voltage occurring across said output when a signal voltage is applied across terminals 1 and 2 will be in phase

> with the voltage occurring across port 8. Thus again the voltage amplifier arrangement 10, 12 effectively constitutes a positive inductance in the input signal path to the inductive port 8, i.e. a filter arrangement the response of which corresponds to that of the arrangement of FIG. 1 has again been realised using only one capacitively-loaded gyrator.

Moulding column 5, line 42 – column 6, line 2. (Emphasis added.)

In contrast with Applicant's claimed method, *Moulding* applies the output of amplifier 10 to the inverting or negative input of amplifier 13. Accordingly, the proposed combination does not disclose, teach or suggest Applicant's claimed inverting step which includes a filter chain "arranged such that a feedback loop is located between an output of the variable gain amplifier and an output of the filter chain." Consequently, for at least the reason that the proposed combination fails to disclose, teach or suggest each element of the claimed method, the proposed combination fails to establish a *prima facie* case of obviousness of Applicant's claimed method.

In addition, because *Moulding* applies the output of amplifier 10 to the inverting or negative input of amplifier 13, *Moulding* teaches away from Applicant's claimed step that includes "the filter chain arranged such that a feedback loop is located between an output of the variable gain amplifier and the output of the filter chain." For at least this additional reason, the proposed combination of *Gomez* in view of *Moulding* does not disclose, teach or suggest Applicant's claimed step of "inverting the impedance of the received signal in the filter chain using an active circuit to simulate the inductance at the output of the amplifier, the filter chain arranged such that a feedback loop is located between an output of the variable gain amplifier and the output of the filter chain." Thus, dependent claims 2 – 4, which include all the features and limitations of independent claim 1, are allowable over the proposed combination. *See In re Fine*, 837, F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Accordingly, Applicant respectfully requests that the rejection of claims 2 - 4 be withdrawn.

IV. Claim Rejections Under 35 USC § 103 – Claims 7 and 8

A. Statement of the Rejection

Claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Gomez* in view of U.S. Patent No. 6,026,286 to Long (hereafter *Long*). Although not specifically included in paragraph 7 (page 5) of the Office Action, Applicant assumes from the statement of the rejection referring to the alleged teachings of *Long* that the proposed combination includes *Gomez* in view of *Long*. If the present assumption is incorrect, Applicant respectfully requests clarification in a subsequent non-final Office Action. *See Office Action* pages 5-6, item 7.

B. Discussion of the Rejection

Applicant respectfully submits that independent claim 5, as amended, is patentable for at least the reason that the proposed combination fails to disclose, teach, or suggest each feature in the claimed low-noise filter.

Specifically, the proposed combination fails to disclose, teach, or suggest Applicant's claimed low-noise filter for a wireless receiver, which includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback loop located between an output of the amplifier and an output of the low-noise filter, wherein an active circuit simulates an inductance at the output of the amplifier."

In contrast with Applicant's claimed low-noise filter, *Gomez* is entirely silent regarding an active circuit that simulates an inductance at the output of the amplifier. FIGs. 4, 5 and 7 of *Gomez* illustrate various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on-off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank circuit (band-pass

filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed. Absent from *Gomez* is any indication that an active circuit simulates an inductance at the output of the amplifier.

In further contrast with Applicant's claimed low-noise filter, *Long* (FIGs. 4, 5 and 7) discloses circuit arrangements with reactive elements (inductors or simulated inductors) in a feedback path coupled to an amplifier input. The application of a feedback signal at an input to an amplifier directly contradicts Applicant's claimed low-noise filter, which includes at least "an impedance inverter applied at the output of the amplifier and configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback loop located between an output of the amplifier and an output of the low-noise filter, wherein an active circuit simulates an inductance at the output of the amplifier."

Accordingly, the proposed combination fails to establish a *prima facie* case of obviousness with respect to Applicant's dependent claims 7 and 8, which include all the features and limitations of independent claim 5. Thus, claims 7 and 8 are allowable over the proposed combination. *See In re Fine*, *supra*. Accordingly, Applicant respectfully requests that the rejection of claims 7 and 8 be withdrawn.

V. Claim Rejections Under 35 USC § 103 – Claims 9, 10 and 13

A. Statement of the Rejection

Claims 9, 10 and 13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,906,584 to Moffat (hereafter *Moffat*) in view of *Gomez*.

B. Discussion of the Rejection

Applicant respectfully submits that independent claims 9 and 13, as amended, are each separately patentable for at least the reason that the proposed combination fails to disclose, teach, or suggest each feature in the claimed portable transceiver.

Concerning claims 9 and 10, the proposed combination fails to disclose, teach, or suggest Applicant's claimed portable transceiver, which includes "an impedance inverter configured to

transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback loop located between an output of the amplifier and an output of the filter, wherein an active circuit simulates an inductance at the output of the amplifier."

Moffat apparently discloses a switchable gain amplifier that produces a high-pass filter pole. Each of the circuits illustrated in *Moffat* comprise switched elements at the input to amplifiers (22, 24). The application of switching signals and switched elements at the input to an amplifier teaches away from Applicant's claimed portable transceiver, which corrects DC offsets by using "an active circuit that simulates an inductance at the output of the amplifier."

In further contrast with Applicant's claimed portable transceiver, *Gomez* illustrates various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on or off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Controllably adding or removing capacitance from a parallel LC circuit does not disclose, teach or suggest using an active circuit to simulate the inductance at the output of an amplifier.

Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank circuit (band-pass filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed. Absent from the proposed combination is any indication that an active circuit simulates an inductance at the output of the amplifier.

Consequently, the proposed combination does not establish a *prima facie* case of obviousness with regard to Applicant's independent claim 9. Accordingly, Applicant respectfully submits independent claim 9 is allowable and respectfully requests that the rejection of claim 9 be withdrawn.

Dependent claim 10, which includes all the features and limitations of independent claim 9, is also allowable over the proposed combination. *See In re Fine*, *supra*. Accordingly, Applicant respectfully requests that the rejection of claim 10 also be withdrawn.

Regarding independent claim 13, the proposed combination fails to disclose, teach, or

suggest Applicant's claimed portable transceiver, which includes "means for inverting the impedance of the received signal at the output of the amplifying means to transform inductance applied to a received signal to a capacitance, the means for inverting the impedance having a feedback loop that bypasses the amplifying means, the means for inverting including an active circuit that simulates an inductance at the output of the means for amplifying."

Moffat apparently discloses a switchable gain amplifier that produces a high-pass filter pole. Each of the circuits illustrated in *Moffat* comprise switched elements at the input to amplifiers (22, 24). The application of switching signals and switched elements at the input to an amplifier teaches away from Applicant's claimed portable transceiver, which includes "an active circuit that simulates an inductance at the output of the amplifier."

In further contrast with Applicant's claimed portable transceiver, *Gomez* illustrates various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on or off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Controllably adding or removing capacitance from a parallel LC circuit does not disclose, teach or suggest using an active circuit to simulate the inductance at the output of an amplifier.

Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank circuit (band-pass filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed. Absent from the proposed combination is any indication that an active circuit simulates an inductance at the output of the amplifier.

Consequently, the proposed combination does not establish a *prima facie* case of obviousness with regard to Applicant's independent claim 13. Accordingly, Applicant respectfully submits independent claim 13 is allowable and respectfully requests that the rejection of claim 13 be withdrawn.

VI. Response to 35 U.S.C. § 103 Rejections – Claims 11, 12 and 14

A. Statement of the Rejections

Claims 11, 12 and 14 presently stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Moffat* in view of *Gomez* and in further view of *Moulding*.

B. Discussion of the Rejections

The proposed combination fails to establish a *prima facie* case of obviousness for at least the reason that the cited references (alone or in combination) fail to disclose, teach, or suggest each feature in the amended claims. More specifically, concerning claims 11 and 12, the proposed combination fails to disclose, teach or suggest Applicant's claimed portable transceiver, which includes "an impedance inverter configured to transform inductance applied to a received signal to a capacitance, the impedance inverter having a feedback loop located between an output of the amplifier and an output of the filter, wherein an active circuit simulates an inductance at the output of the amplifier."

Moffat apparently discloses a switchable gain amplifier that produces a high-pass filter pole. Each of the circuits illustrated in *Moffat* comprise switched elements at the input to amplifiers (22, 24). The application of switching signals and switched elements at the input to an amplifier teaches away from Applicant's claimed portable transceiver, which corrects DC offsets by using "an active circuit that simulates an inductance at the output of the amplifier."

In further contrast with Applicant's claimed portable transceiver, *Gomez* illustrates various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on or off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Controllably adding or removing capacitance from a parallel LC circuit does not disclose, teach or suggest using an active circuit to simulate the inductance at the output of an amplifier.

Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank

circuit (band-pass filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed. Absent from the proposed combination is any indication that an active circuit simulates an inductance at the output of the amplifier.

Also in contrast with Applicant's claimed portable transceiver, *Moulding* applies the output of amplifier 10 to the inverting or negative input of amplifier 13.

Consequently, the proposed combination does not establish a *prima facie* case of obviousness with regard to Applicant's dependent claims 11 and 12, which include all the features and limitations of independent claim 9. *See In re Fine*, *supra*. Accordingly, Applicant respectfully requests that the rejection of claims 11 and 12 be withdrawn.

Regarding claim 14, the proposed combination fails to disclose, teach, or suggest Applicant's claimed portable transceiver, which includes "means for inverting the impedance of the received signal at the output of the amplifying means to transform inductance applied to a received signal to a capacitance, the means for inverting the impedance having a feedback loop that bypasses the amplifying means, the means for inverting including an active circuit that simulates an inductance at the output of the means for amplifying."

Moffat apparently discloses a switchable gain amplifier that produces a high-pass filter pole. Each of the circuits illustrated in *Moffat* comprise switched elements at the input to amplifiers (22, 24). The application of switching signals and switched elements at the input to an amplifier teaches away from Applicant's claimed portable transceiver, which includes "an active circuit that simulates an inductance at the output of the amplifier."

In further contrast with Applicant's claimed portable transceiver, *Gomez* illustrates various embodiments of a tunable filter bank and a differential filter bank. The band-pass filters illustrated and described in *Gomez* are single LC circuits arranged in parallel. FIG. 4 illustrates how transistors M407, M408 and M409 can be controllably turned on or off to control the total capacitance in the corresponding parallel LC circuit to adjust the band-pass filter. Controllably adding or removing capacitance from a parallel LC circuit does not disclose, teach or suggest using an active circuit to simulate the inductance at the output of an amplifier.

Regarding inductance in the band-pass filter, *Gomez*, page 2, paragraph 33, indicates that impedances 401a, 401b through 401n may be inductors. *Gomez* further indicates that each tank circuit (band-pass filter) includes an inductor and a capacitor. The inductors L406 may be discrete, or printed.

Also in contrast with Applicant's claimed portable transceiver, *Moulding* applies the output of amplifier 10 to the inverting or negative input of amplifier 13. Absent from the proposed combination is any indication that an active circuit simulates an inductance at the output of the amplifier.

Consequently, the proposed combination does not establish a *prima facie* case of obviousness with regard to Applicant's dependent claim 14, which includes all the features and limitations of independent claim 13. *See In re Fine*, *supra*. Accordingly, Applicant respectfully requests that the rejection of claim 14 be withdrawn.

VII. Response to 35 U.S.C. § 103 Rejections – Claims 15 - 18

A. Statement of the Rejections

Claims 15 - 18 presently stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,184,747 to Helgeson *et al.* (hereafter *Helgeson*).

B. Discussion of the Rejections

Applicant has canceled claim 17. Thus, the rejection of claim 17 is rendered moot.

The cited reference fails to establish a *prima facie* case of obviousness with respect to Applicant's amended independent claim 15 for at least the reason that the cited reference fails to disclose, teach, or suggest each feature in the amended claims.

Regarding Applicant's claims 15, 16 and 18, the cited reference fails to disclose, teach, or suggest a system for removing direct current (DC) offset from a received signal, comprising at least "a gyrator-generated inductance applied at the output of the variable gain amplifier, the gyrator-generated inductance configured to transform inductance present at the output of the variable gain amplifier to a capacitance, the gyrator-generated inductance and the variable gain

amplifier arranged such that the amplified RF signal is not applied at an input of the variable gain amplifier, wherein the gyrator-generated inductance shunts excess DC current present at the output of the variable gain amplifier to ground."

In this regard, the Office Action alleges that *Helgeson*, column 8, lines 7-17, discloses the feature that the gyrator-generated inductance shunts excess DC current present at the output of the variable gain amplifier to ground. Applicant respectfully disagrees.

Helgeson is directed to a differential gyrator based filter that increases the overall density, reliability, yield, signal-to-noise ratio and dynamic range of a gyrator based filter and related circuitry. *See Abstract, Helgeson*. The cited portion of *Helgeson* is describing the differential circuit embodiment illustrated in FIG. 3. The differential circuit illustrated in FIG. 3 does not include a path to electrical ground. Moreover, *Helgeson* clearly states that as the frequency of a signal at the input to the filter increases beyond a high-pass pole, the load capacitors begin to appear as AC shorts to ground. An AC short through a load capacitor is not a gyrator-generated inductance that shunts excess DC current to ground.

Thus, the cited reference fails to establish a *prima facie* case of obviousness with respect to Applicant's amended claim 15. Consequently, Applicant submits independent claim 15 is allowable over *Helgeson* and respectfully requests that the rejection of claim 15 be withdrawn.

Because independent claim 15 is allowable, dependent claims 16 - 18, which depend either directly or indirectly, from claim 15, are also allowable. *See In re Fine, supra*. Accordingly, Applicant respectfully requests that the rejection of claims 16 - 18 also be withdrawn.

CONCLUSION

In summary, Applicant respectfully requests that all outstanding claim rejections be withdrawn. Applicant respectfully submits that presently pending claims 1 – 5 and 7 - 18 are allowable and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comment regarding the Applicant's response or believe that a teleconference would expedite prosecution of the pending claims, Applicant requests that the Examiner telephone Applicant's undersigned attorney.

Respectfully submitted,

Smith Frohwein Tempel Greenlee Blaha LLC
Customer No. 35856

By: /Robert A. Blaha/
Robert A. Blaha
Registration No. 43,502
(770) 709-0069